

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

SYNQOR, INC.,

Plaintiff,

v.

ARTESYN TECHNOLOGIES, INC., *et al.*,

Defendants.

Civil Action No. 2:07-CV-497 (TJW) (CE)

**JURY**

**DEFENDANTS DELTA ELECTRONICS, INC., DELTA PRODUCTS CORP., MURATA  
ELECTRONICS NORTH AMERICA, INC., MURATA MANUFACTURING CO., LTD.,  
MURATA POWER SOLUTIONS, INC., AND POWER-ONE, INC.'S  
MOTION FOR SUMMARY JUDGMENT OF INDEFINITENESS**

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## I. INTRODUCTION

This motion concerns the ‘083 patent and the ‘702 patent.<sup>1</sup> These two patents issued after SynQor started this lawsuit, and the claims in these two patents were submitted to the Patent Office after the Defendants served their invalidity contentions on SynQor. In SynQor’s haste to obtain more patents and in its zeal to avoid the prior art, SynQor rushed claims with technical defects into the Patent Office. These technical defects render the affected claims invalid as indefinite.

## II. THE APPLICABLE LAW

Summary judgment shall be granted where the moving party “show[s] that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(c); *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986); *Ethicon Endo-Surgery, Inc. v. United States Surgical Corp.*, 149 F.3d 1309, 1315 (Fed. Cir. 1998). “Indefiniteness under 35 U.S.C. § 112 ¶ 2 is an issue of claim construction and a question of law.” *Cordis Corp. v. Boston Scientific Corp.*, 561 F.3d 1319, 1331 (Fed. Cir. 2009). It is thus appropriately resolved on motion for summary judgment.

## III. ARGUMENT

### A. “Transformer That Is Not Driven Into Saturation” Is Indefinite In Apparatus Claims Because the Claim Limitation Describes A Method Of Use Of The Transformer

“transformer that is not driven into saturation”

’083: 1, 2, 5, 9, 11, 21, 22, 26<sup>2</sup>

’702: 1, 12, 15, 22, 24, 26, 55, 56, 59, 65, 71

<sup>1</sup> U.S. Patent No. 7,558,083 is attached as Exhibit A and U.S. Patent No. 7,564,702 is attached as Exhibit B to this Motion.

<sup>2</sup> Only asserted claims are listed here and throughout the brief. However, these arguments apply with equal force to any unasserted claims that include the same terms at issue.

| Defendants                   | SynQor   |
|------------------------------|--|
| Indefinite for system claims | Transformer connected in a power converter in a manner and configuration such that the transformer's magnetic flux density level is less than its saturation flux density level during normal operation.<br>See construction above of "during normal operation." |

In 2005, the Federal Circuit considered an issue of first impression—can a claim to an apparatus include limitations directed to the use of the apparatus? *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005). The Federal Circuit held that the answer is “no”—an apparatus claim cannot claim a particular use of an apparatus because determination of infringement of an apparatus claim should be determinable at the time the apparatus is made and sold. When an apparatus includes a method limitation, it is impossible for a potential infringer to determine whether infringement will occur at the time of making or selling the apparatus. Therefore, such a claim is indefinite and invalid. *Id.* at 1384 (“A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. § 112, second paragraph.” (*quoting* the PTO's Manual of Patent Examination Procedure, § 2173.05(p)(II) (1989)). This is true because “combining two separate statutory classes of invention in a single claim ... is not sufficiently precise to provide competitors with an accurate determination of the ‘metes and bounds’ of protection involved.” *Ex parte Lyell*, No. 89-0461, 1990 WL 354583, at \*5 (Bd. Pat. App. & Inter. Aug. 16, 1990). Claims that mix method and apparatus limitations are indefinite because they present a “lack of clarity as to when the mixed subject matter claim would be infringed.” *Microprocessor Enhancement Corp. v. Texas Instruments Inc.*, 520 F.3d 1367, 1374-75 (Fed. Cir. 2008) (*citing IPXL*, 430 F.3d at 1384).

While the holding in the *IPXL* case was narrow, it is directly on point to the issues presented here.

All of the asserted apparatus claims in the ‘702 and ‘083 patents recite a transformer. The apparatus claims include structural limitations, such as an “isolating step-down transformer... having plural windings including at least one primary winding and at least one secondary winding.” This is a proper limitation.

However, the claims also describe a specific method of using that transformer—namely, operating the transformer so that it is “not driven into saturation.” (*See, e.g.*, claim 1 of the ‘083 patent). This is improper. Driving (or not driving) a transformer into saturation is an act which may or may not occur during the use of a product—it does not describe structure.

There is nothing inherent to the structure disclosed in the patent or the claim (such as protection circuits) that would guarantee that the transformer would not saturate. A transformer might or might not be driven into saturation, depending on how the transformer is used. Accordingly, there would be no way to predict if the product on the stockroom shelf or when sold will eventually run afoul of this limitation.

As is the case here, the key question of *IPXL* is whether it was possible to determine infringement of an apparatus claim by examining the accused product when sold, or whether a manufacturer would have to guess and speculate as to how a user will actually use the product to determine whether it could be liable for infringement. *IPXL*, 430 F.3d at 1384 (claim indefinite because “[a] manufacturer or seller of the claimed apparatus would not know from the claim whether it might also be liable for contributory infringement because a buyer or user of the apparatus later performs the claimed method of using the apparatus”)

Had the claims read “a transformer that **cannot** be driven into saturation,” the Defendants would not be filing this Motion. Such a hypothetical claim limitation describes the capabilities of the device, rather than a particular use of the device. A manufacturer would know at the time of the sale whether the product it is selling meets this limitation. If it is **impossible** to saturate the transformer, no matter how the customer uses the device, then this hypothetical limitation would be met. If it were possible (even if unlikely) for the transformer to saturate, then the limitation would not be met. The hypothetical claim limitation would therefore be definite, because infringement can be evaluated at the time the apparatus is made or sold.

By contrast, here we have the limitation that a transformer is “not driven into saturation.” The term “not driven into saturation” describes a particular use of the apparatus, not its inherent structure—namely, how it is “driven” by a user.

SynQor acknowledges that this limitation is targeted to a particular use of the transformer by seeking to interpret “not driven into saturation” as not driven into saturation “during normal operation.” SynQor is not relying on the structure of the transformers of the accused devices to prove that they cannot saturate—rather, SynQor argues that the claimed transformers can saturate some of the time, but just not when used “during normal operation.” Thus, SynQor’s proposed construction underscores the indefiniteness of the term—the phrase “not driven into saturation” is not structural, but a description of a particular use of the transformer.

SynQor’s definition for “during normal operation” makes its proposed construction even more problematic. SynQor construes “during normal operation” to mean how the device “usually operates.” Under SynQor’s construction, the product must be watched for an extended period of time to see whether the device saturates and if it does to determine if the saturation



does not “usually” occur. The saturation will be dependent on the environment the product is used in, and thus one cannot tell in advance what will “usually” happen to the device.

SynQor makes no attempt to recast this limitation as a structural term, such as by changing it to “cannot be driven into saturation”—instead, SynQor’s proposed construction only enhances the problem. Therefore, this claim limitation is an improper method step in the apparatus claims, and the apparatus claims containing this method step are invalid as being improper mixed method and apparatus claims.

**B. Certain Claims Have Technical Defects that Render the Claims Indefinite due to Lack of Proper Antecedent Basis**

Two of the claim limitations in SynQor’s ‘702 and ‘083 patents have technical defects that render the claims invalid under 35 U.S.C. § 112. These claims are indefinite because they (1) lack proper antecedent basis and (2) are so poorly drafted there is no way for a person of ordinary skill in the art to understand what the claims are intended to cover.

“[A] claim could be indefinite if a term does not have proper antecedent basis where such basis is not otherwise present by implication or the meaning is not reasonably ascertainable.” *Halliburton Energy Servs. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008) (citing *Energizer Holdings, Inc. v. Int’l Trade Com’n*, 435 F.3d 1366, 1370-71 (Fed. Cir. 2006)). “Lack of antecedent basis can render a claim indefinite unless ‘the scope of a claim would be reasonably ascertainable by those skilled in the art.’” *Advanced Technology Incubator, Inc. v. Sharp Corp.*, 2009 WL 4403314, \*25-26 (E.D. Tex. 2009) (Folsom, J.) (quoting *Bose Corp. v. JBL, Inc.*, 274 F.3d 1354, 1359 (Fed. Cir. 2001)).

**1. “Filter Inductor Directly Connected to Plural of the Windings of the At Least One Transformer”**

|  |
|--|
| <p>“filter inductor directly connected to plural of the windings of the at least one transformer”<br/> ‘083: 9, 11, 22, 26, 40, 49, 51<br/> ‘702: 22, 24, 59, 65, 79, 87</p> |
|--|

| Defendants                                 | SynQor  |
|--|---|
| Indefinite due to lack of antecedent basis | <p>“Filter inductor” means “an inductor that provides a filtering function.”</p> <p>“Plural of the windings of the at least one transformer” means “two or more of the windings of the at least one transformer.”</p> <p>See construction above of “connected.”</p> <p>SynQor is of the view that no further construction of this phrase is required.</p> <p>Should the Court decide to construe any other terms from this phrase, SynQor believes that any such terms should be construed to have their respective plain and ordinary meanings consistent with the intrinsic evidence.</p> |

Several of the claims asserted by SynQor include a limitation to a filter inductor connected to “plural of **the windings** of the at least one transformer” without any antecedent recitation of the windings at issue. It is impossible to tell from the claims or the specification which windings are being referenced.

Claim 22 of the ‘083 patent is an example of such a claim:

A non-regulating isolating step-down DC-DC power converter through which power flows from a DC input to provide a non-regulated, isolated DC output having a non-regulated voltage, comprising:

i) **at least one isolating step-down transformer** that is not driven into saturation, the at least one transformer having plural windings **including at least one primary winding and at least one secondary winding**;

ii) plural power MOSFET switches in circuit with the at least one primary winding, the plural power MOSFET switches causing power from the DC input to flow into the at least one primary winding;

...

iv) plural controlled rectifiers in circuit with the at least one secondary winding, ... and

v) **a filter inductor directly connected to plural of the windings of the at least one transformer**, all current that flows through the inductor flowing through a first of the plural windings during the first portion of the switching cycle, and a second of the plural windings during the second portion of the switching cycle.

(emphasis added).

The minimum configuration of the claim has a single transformer with two windings—one primary winding and one secondary winding. In this minimum configuration, the filter inductor would be “directly connected” to the primary and secondary winding. However, it is not disputed that such a configuration is inoperable because the remainder of the claim could not be met—all current in such a configuration would not flow through “a first of the plural windings during the first portion of the switching cycle, and a second of the plural windings during the second portion of the switching cycle.” Also, if the filter inductor were connected to the primary and secondary windings, it would defeat the isolation between input and output and the requirement that the converter be “isolating” would not be met.

Therefore, the filter inductor must be connected to additional windings that are not required by or specifically recited in the claims. There is no antecedent basis for additional windings because the phrase reciting additional windings is missing. That missing phrase could theoretically be either of the following (as well as perhaps others):

1. “wherein there are at least two primary windings and the filter inductor is connected to plural of the primary windings.”
2. “wherein there are at least two secondary windings and the filter inductor is connected to plural of the secondary windings.”

Each of these hypothetical additions to the claim could provide proper antecedent basis. However, each has a different scope and there is no basis to determine which option was intended by the patent drafter. Thus, the claim is defective.

Having determined that the phrase “plural of the windings” lacks antecedent basis and is ambiguous, then the question becomes whether an antecedent basis “may be found by

implication elsewhere in the patent.” *Gardner v. Toyota Motor Corp.*, 2009 WL 4110305, \*2 (W.D. Wash. 2009)(citing *Energizer Holdings*, 435 F.3d at 1370-71).

It is SynQor’s position that the claims should be interpreted to have either two primary windings or two secondary windings and that the filter inductor can be connected to either the primary or secondary windings. There are significant issues with each of these proposed scenarios. First, SynQor alleges that a person of ordinary skill in the art would know that the claim is intended to cover a filter inductor connected to two secondary windings—but there is **no disclosure** in the patents of connecting a filter inductor to two secondary windings of a transformer. Because there is no disclosure of this feature, the claims cannot be construed to cover this feature—if such a claim were submitted to the Patent Office, it would be rejected for lack of written description.

Turning now to the second possibility—that the filter inductor is connected to two primary windings. The specifications largely disclose embodiments having two transformers, each having a single primary winding—but the claim requires the windings to be on a single transformer (“plural of the windings of **the** at least one transformer”). Therefore, these embodiments cannot provide guidance for interpreting this claim limitation.

The claim limitation also cannot be directed to a filter inductor connected to two primary windings of a single transformer. The reason is that claim 22 (the claim at issue here) must support its dependent claims, and dependent claim 32 requires that the claimed device provide “substantially uninterrupted” flow of power.

However, the disclosed single transformer embodiments in the specification do not provide substantially uninterrupted power—this is a feature that is provided by the two-transformer embodiments. The single transformer embodiment is called “conventional,” is

disparaged, and is specifically distinguished from the invention because it cannot provide uninterrupted power flow:

In a conventional current-fed push-pull topology where all the transformer windings are coupled on a single core, turning on both primary-side transistors will cause the voltage across the transformer windings to drop to zero, the output diodes to turn off, and the power to stop flowing through the isolation stage.

Here, however, since two separate, uncoupled transformers are used, the voltage across the transformer windings does not have to collapse to zero when both Q1 and Q2 are on. Instead, both of the output diodes D1 and D2 turn on, both transformers have a voltage across them determined by the output voltage, and the current of inductor L splits (not necessarily equally) between the two halves of the isolation stage. The power flow through the isolation stage is therefore not interrupted (except to charge/discharge parasitic capacitances and inductances).

(‘083 patent, col. 5 line 62 to col. 6 line 10).

Because the “filter inductor” claim limitation would be inoperable if the filter inductor were connected to the two windings actually recited in the claim, because the claim has neither an explicit nor implicit antecedent basis for other windings, and because a person of ordinary skill in the art in reading the claim and the specification would not be able to deduce what missing phrase the patent drafter intended to include, the claim limitation “a filter inductor directly connected to plural of the windings of the at least one transformer” is indefinite under 35 U.S.C. § 112.

## 2. “Multiple Non-Regulating Isolating Step-Down Stages”

| “multiple non-regulating isolating step down converters providing plural non-regulated, isolated DC outputs, plural of the non-isolating down-converter switching regulators receiving power from one of the non-regulated, isolated DC outputs” |   |
|--|---|
| ’702: 26   |   |
| Defendants   | SynQor  |
| Indefinite   | Two or more non-regulating isolating step down converters through which power from the DC input flows first before flowing through any regulation stage, each providing a non-regulated, isolated DC output, wherein at least one of those non-regulated, isolated DC outputs is provided to two or more non-isolating down-converter switching regulators. |

A claim is “indefinite under § 112 if the claim does not recite structural relationships of essential elements.” *Acacia Media Technologies Corp. v. New Destiny Internet Group*, 405 F. Supp. 2d 1127, 1138 (N.D. Cal. 2005)(citing *In re Collier*, 55 C.C.P.A. 1280, 397 F.2d 1003 (C.C.P.A. 1968); see also *Young v. United States*, 179 USPQ 801, 808 (Ct.Cl. Trial Div. 1973), *adopted*, 204 Ct.Cl. 867).. Here, this claim limitation is indefinite because it claims multiple isolation stages in a void, with no disclosure of how these multiple stages are to be connected to each other or otherwise incorporated into the claimed power converter system.

Claim 26 of the ‘702 patent, which depends from claim 1, is exemplary. Claim 1 recites:

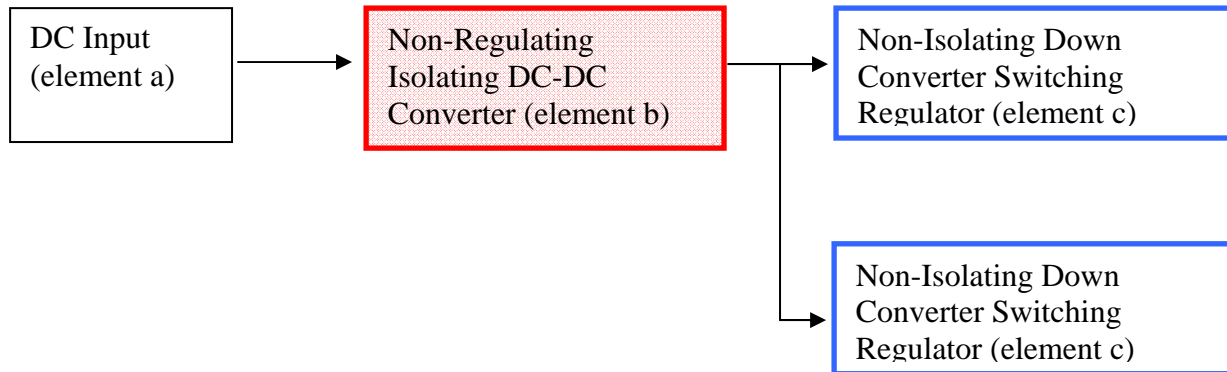
A DC-DC power converter system providing plural regulated DC outputs, each having a regulated voltage, comprising:

a) a DC input providing an input voltage that varies over a range that is more than plus or minus a few percent;

b) a **non-regulating isolating step-down converter through which power from the DC input flows first before flowing through any regulation stage**, the non-regulating isolating step-down converter providing a non-regulated, isolated DC output having a non-regulated voltage and comprising [additional internal structural requirements]; and

c) plural non-isolating down-converter switching regulators, each receiving power from the non-regulated, isolated DC output and each providing one of the regulated DC outputs having a regulated voltage.

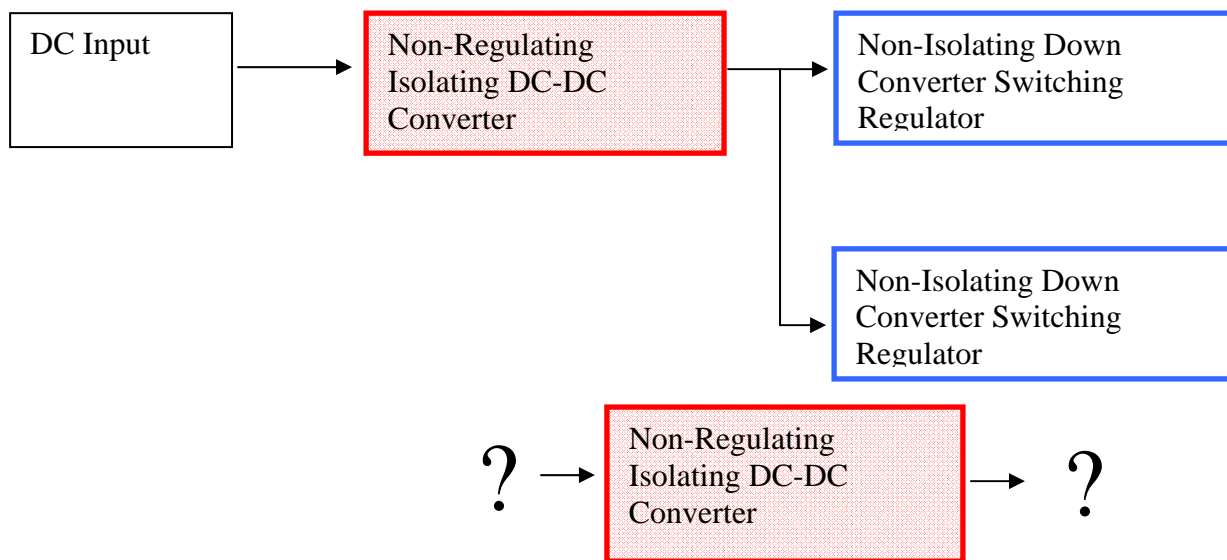
Claim 1 may be pictorially represented as follows:



Claim 26 of the '702 patent then follows with:

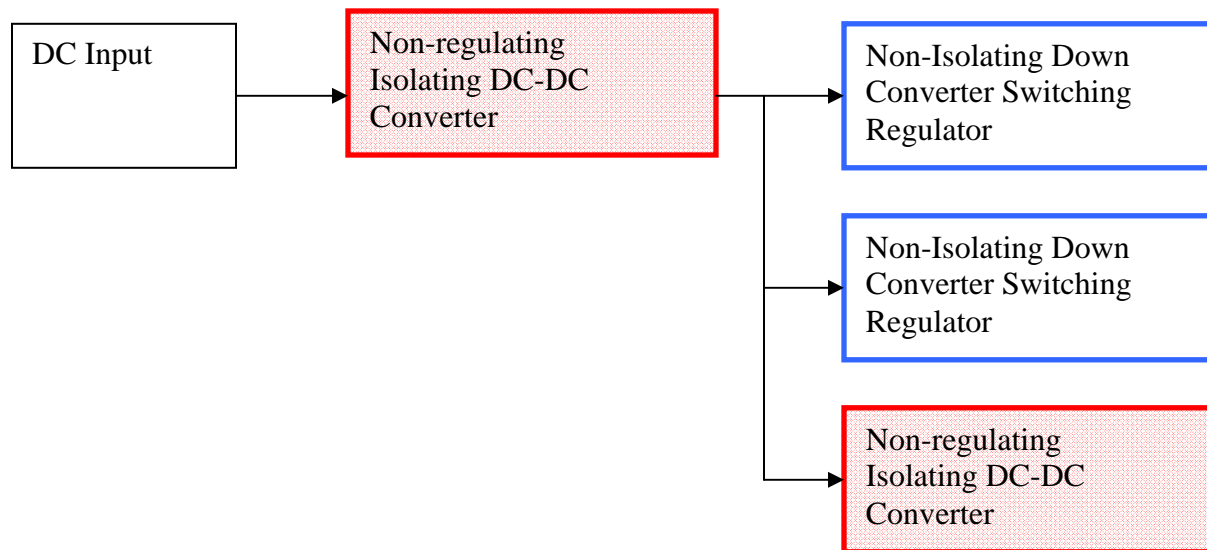
A DC-DC power converter system as claimed in claim 1 comprising **multiple non-regulating isolating step-down converters** providing plural non-regulated, isolated DC outputs, there being plural of the non-isolating down-converter switching regulators receiving power from **one** of the non-regulated, isolated DC outputs.

Claim 26 essentially states that one must add at least one more “non-regulating isolating step-down converter” to the system. The problem is, this claim fails to recite how these additional converters connect into the system of Claim 1:



Claim 26 provides no guidance for connecting the second DC-DC converter, except to say that it is **not** connected in the same manner as the converter recited in claim 1. Claim 26 specifically states that only “one” of the multiple DC-DC converters is connected to the downstream regulators. Thus, the “multiple” converters of claim 26 are not configured identically to the converter of claim 1.

One possibility that would be consistent with the claim language is that the second converter is powered from the first:



Other possibilities include:

2. The second DC-DC converter is powered by the DC Input recited in claim 1 and precedes the DC-DC converter recited in claim 1.
3. The second DC-DC converter is powered by the DC Input and is in parallel with the DC-DC converter recited in claim 1.
4. The second DC-DC converter is powered by a separate and additional DC Input and supplies power to separate and additional non-isolating down converter switching regulators.



Of all these legitimate possibilities, SynQor declares that this claim is definite and seeks a construction limiting these claims to the third possibility. However, there is no basis for adding limitations to the claim that are simply absent—and certainly no basis for choosing among equally plausible possibilities.

SynQor is reading in a limitation that is not in the claim itself—namely, that the “multiple . . . converters” all receive power directly from “the DC input” recited in the parent claims. This Court cannot rewrite a defective claim. *See Quantum Corp. v. Rodime, PLC*, 65 F.3d 1577, 1584 (Fed. Cir. 1995) (“ [I]t is well settled that no matter how great the temptations of fairness or policy making, courts do not redraft claims” ).

The claims at issue fail to recite the necessary connections between the converter system of the parent claims and the additional “multiple non-regulating isolating” DC-DC converters of the dependent claims. Therefore, these claims fail to particularly point out and distinctly claim the invention as required by 35 U.S.C. § 112 and are indefinite.

#### **IV. CONCLUSION**

For the foregoing reasons, the Fish Defendants request that the Court grant its Motion For Summary Judgment of Indefiniteness and declare the affected claims invalid.

Dated: May 28, 2010

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that a true and correct copy of the above and foregoing document has been served on May 28, 2010 upon all counsel of record who are deemed to have consented to electronic service via the Court's CM/ECF system per Local Rule CV-5(a)(3). Any other counsel of record will be served by first class mail.

/s/ E. Glenn Thames, Jr.

E. Glenn Thames, Jr.